

Work Order ID 51772

September 3, 2009 7:30:31 AM



Page 1

Item ID: D3691-1

Revision ID: U/R

Item Name: STD

Start Date: 04/09/2009 Start Qty: 12.00

Required Date: 14/09/2009 Req'd Qty: 12.00

Reference:

Accept



Setup Start



Stop



Cust Item ID:

Customer:

Run Start



Stop



Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	----------------	--------------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D3691	Rev U/R

100

Bandsaw
Jeaspa Bandsaw

BAND SAW

Memo

DO NOT USE CHOP SAW

0.00

0.00

☐ Cut blank 7.850" long

SA 09/09/14 / 14/09.09.13

12

Ø

110

Doosan
Doosan Lathe

DOOSAN LATHE

Memo

1-Turn as per Folio FA716 Rev: 11 & Dwg D3691 Rev: 6 ☐ 2-Deburr
per dwg D3691
3-Check .625" bore with DT9530 GO/NO GO Gauge

0.00

0.00

SA 09/09/14 / 14/09.09.13

12

Ø

120

QC
Quality Control

QC2- Inspect parts off machine FAI/FAIB

Memo

0.00

0.00

SA 09/09/14 / 14/09.09.13

12

Ø

Work Order ID 51772

September 3, 2009 7:30:31 AM

Page 2

Item ID: D3691-1

Accept

Revision ID: U/R

Item Name: STUD

Start Date: 04/09/2009 Start Qty: 12.00

Required Date: 14/09/2009 Req'd Qty: 12.00

Cust Item ID:

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run

Start

Stop

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

130



Lathe Conv

Conventional Lathe

CONVENTIONAL LATHE

Memo

Face to finished length as per dwg D3691 AND center drill as per Dwg D3691

0.00

0.00

SD 07/07/14

12

0

140



QC

Quality Control

QC2- Inspect parts off machine FAI/FAIB

Memo

0.00

0.00

SD 07/07/14

12

0

150



Doosan

Doosan Lathe

DOOSAN LATHE

Memo

1- Turn as per Folio FA716 Rev: _____ & Dwg D3691 Rev: _____ ☐ 2-Deburr per dwg D3691

0.00

0.00

SD 07/07/14

12

0

DART AEROSPACE LTD		Work Order:	51772
Description: Stud		Part Number:	D3691-1
Inspection Dwg: D3691 Rev: B		Page 1 of 1	

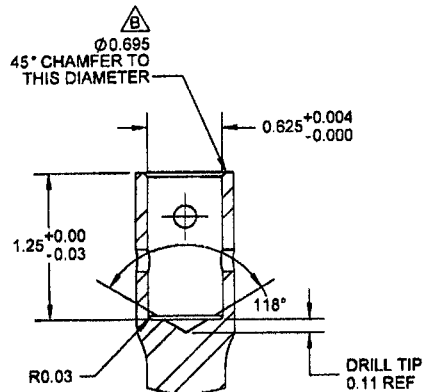
FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

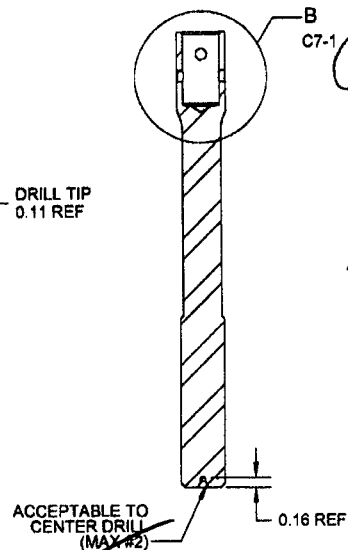
Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø0.695	+/-0.010	Ø.695	/			
45°	0.5°	45°	/			
0.625	+0.004/-0.000	Ø.626	/			
1.25	+0.000/-0.03	1.230	/			
118°	0.5°	118°	/			
R0.03	+/-0.030	R.03	/			
0.11 Ref	+/-0.030	.11	/			
90°	0.5°	90°	/			
Ø0.189	+0.005/-0.001	Ø.189	/			
1.31	+/-0.030	1.330	/			
1.65	+/-0.030	1.670	/			
0.750	+0.000/-0.010	.741	/			
Ø0.659	+0.000/-0.015	Ø.6535	/			
7.750	+/-0.015	7.754	/			
2.90	+/-0.030	2.930	/			
3/4-16UNF-2A	N/A	3/4-16 UNF2A	/			
0.075 x 45°	+/-0.010 x 0.5°	.075 x 45°	/			
0.375	+0.000/-0.010	.367	/			
Ø0.189	+0.005/-0.001	Ø.189	/			
R0.25	+/-0.030	R.25	/			
R0.50	+/-0.030	R.50	/			

Measured by:	<i>SA</i>	Audited by:	<i>SP</i>	Prototype Approval:	N/A
Date:	05/05/14	Date:	09/09/16	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	09.05.11	New Issue	KJ	<i>[Signature]</i>



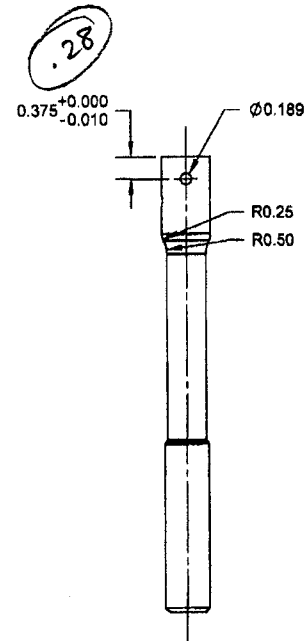
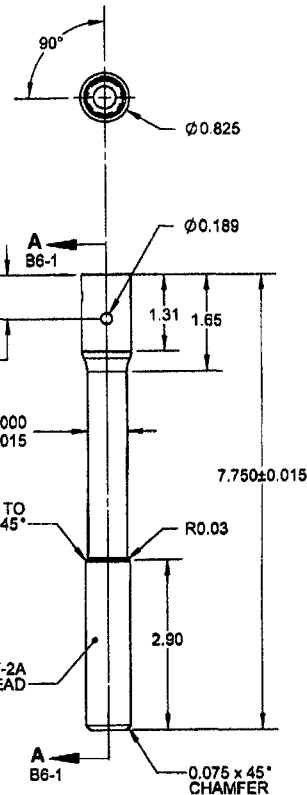
DETAIL B
SCALE 2X
C6-1



SECTION A-A
D4-1

D3691-1 STUD

- NOTES:**
- 1) MATERIAL: 17-4PH STAINLESS STEEL ROUND BAR PER AMS 5643 H-900 CONDITION
 - 2) FINISH: NONE
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: NONE
 - 7) WEIGHT: 0.81 lb
 - 8) LPI PER ASTM 1417 LEVEL 2



UNDER REVIEW
08/12/12
CHANGING CENTER DRILL
TO #4

RELEASED
08/12/15

B	CHANGE TO 17-4PH H-900 (ZIN A8-1); Ø 0.695 WAS Ø 0.655 (ZIN D8-1); REFORMATTED TO CURRENT DWG STANDARDS	RF	08.11.24
A	NEW ISSUE	RF	08.03.12
REV.	DESCRIPTION	BY	DATE
DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	RF	DRAWING NO.	REV. B
MFG. APPR.	RF	D3691	SHEET 1 OF 1
APPROVED	RF	TITLE	SCALE
DE APPR.	RF	STUD	NTS
DATE	08.11.24	COPYRIGHT © 2008 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD	

Jean-Luc Menard

From: David Shepherd [dshepherd@dartaero.com]
Sent: March 9, 2009 12:48 PM
To: 'Jean-Luc Menard'
Cc: 'Mike Petsche'; 'Roberto Fuentes (Roberto Fuentes)'
Subject: RE: engine mount studs D3691 & D3688

JL,

As discussed, it is acceptable to change from a #2 center drill to a #4 center drill on current production of the D3691 & D3688 engine mount studs.
Please consider this email acceptance of this deviation.

Roberto,

Please work with Kim to put D3691 and D3688 Under Review.
Then, please update drawings D3691 and D3688 for future production over the next month or so.

Thanks,
David

-----Original Message-----

From: Jean-Luc Menard [mailto:jmenard@dartaero.com]
Sent: Monday, March 09, 2009 9:44 AM
To: David Shepherd (David Shepherd)
Cc: Mike Petsche; Roberto Fuentes (Roberto Fuentes)
Subject: engine mount studs D3691 & D3688

David,

As dicussed, we would change the center drill in the parts to #4 from #2.

This would result in better support in the lathe resulting in better surface finish.

This is fine for these parts, what did you want to do for future parts?

Let me know.

JLM

Jean-Luc Menard

Production Engineering Coordinator

1270 Aberdeen Street

Hawkesbury Ontario

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LIQUID PENETRANT TEST REPORT

P- 0913

PAGE 1 OF

CLIENT Dart Aerospace DATE Sept 17th 2009 TIME AM ☒ F
ATTENTION Linda Lucelle ACUREN JOB NO. 182-09-1556
ADDRESS 1270 Aberdeen St. POWO No. 10419
Hawkesbury WORK LOCATION Hawkesbury
ACCEPTANCE STD. ASTM 1417/QS1038 REV./DATE 200
PROJECT x-Tubes, 12 studs and 31 sleeves
ITEM(S) EXAMINED Job #'s 50745, 51772, 50984, 50985, 51877, 51880

JOB DESCRIPTION PROCEDURE NO. LT-0002 REV./DATE 101 TECHNIQUE NO. LT-TECH2 REV./DATE
PART NO. D3689-1, D3691-1, D412-664-203, D212-664-101 MATERIAL ALODINED ALUM. THICKNESS
SCOPE WET FLOURESCENT LIQUID PENETRANT INSPECTION CARRIED OUT ON
100% EXTERNAL SURFACE

TEST DETAILS

METHOD ☒ FLUORESCENT ☐ VISIBLE ☒ WATER WASH ☐ SOLVENT REMOVABLE ☐ POST EM
FAMILY BRAND MAGNAFLUX BLACK LIGHT S/N 8170 ☒ OUTPUT > 1000 μ W/cm² ☐ AMBIENT
PENETRANT ZL67 MINIMUM DWELL TIME 45 MIN. LIGHTING EQUIP. ☒ FLASHLIGHT ☐ TROUBLELIGHT ☐ OUTPUT > 100 fc @
PENETRANT REMOVER H₂O MINIMUM DRY TIME >10 MIN. OTHER CAL # JUNE 09
DEVELOPER SKD52 MINIMUM DWELL TIME 10 MIN. LIGHT METER S/N CAL DUE DATE DEC
DEVELOPER TYPE ☒ NON AQUEOUS ☐ AQUEOUS ☐ DRY

TEST SURFACE

SURFACE CONDITION ☐ AS GROUND ☐ AS WELDED ☒ MACHINED ☐ SHOT BLASTED ☒ CLEAN BARE M
SURFACE TEMPERATURE ☐ < -4°C/ 20°F ☐ -4°C/ 20°F TO 10°C/ 50°F ☐ 10°C/ 50°F TO 52°C/ 125°F ☐ > 52°C/ 125°F

RESULTS- ☐ METRIC ☐ IMPERIAL

WET FLOURESCENT LIQUID PENETRANT INSPECTION CARRIED OUT ON 100% EXTERNAL SURFACE ON:		No indication found at the of the inspection. ACCEPTABLE TO STANDARD 09 09 18
31 Sleeves ID: D3689-1	✓	
12 Studs ID: D3691-1	✓	
2 x Crosstube Art ID: D412-664-203	✓	
2 x Crosstube Fwd ID: D412-664-101	✓	

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SIGNATURES

CLIENT REPRESENTATIVE C. LADJOIE Charles Lajoie DTR #
TECHNICIAN (SIGNATURE): Frederick Chagnon SIGNATURE
NAME (PRINT): Frederick Chagnon 1ST TECHNICIAN
CGSB LEVEL II SNT LEVEL II CGSB LEVEL II SNT LEVEL II
CGSB REG. NO. 10560 CGSB REG. NO. 10560 2ND TECHNICIAN
REPORT REVIEWED BY: NAME IN

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